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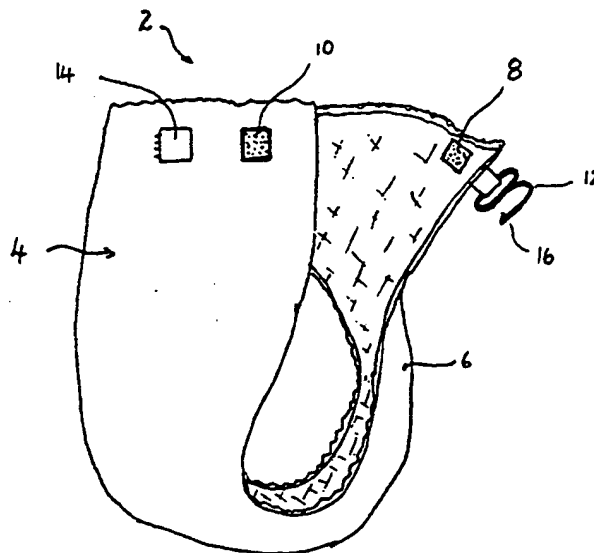
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<p>(21) International Application Number: <b>PCT/AU94/00354</b> (22) International Filing Date: <b>28 June 1994 (28.06.94)</b> (30) Priority Data: <b>PL 9683</b>                      <b>29 June 1993 (29.06.93)</b>                      <b>AU</b> (71)(72) Applicant and Inventor: <b>SINCLAIR, Heather [AU/AU];</b> <b>75 Carrington Parade, South Curl Curl, NSW 2096 (AU).</b> (74) Agent: <b>SHELSTON WATERS; 55 Clarence Street, Sydney,</b> <b>NSW 2000 (AU).</b></p>		<p>(81) Designated States: <b>AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</b></p> <p>Published <i>With international search report.</i></p>

(54) Title: **FASTENING SYSTEM FOR A NAPPY OR PILCHER**

(57) Abstract

A nappy or pilcher (2) having a front portion (6) adapted for accurate alignment to the rear portion (4) by contact fastening means (8, 10) wherein the alignment enables the nappy or pilcher to be securely fastened with ease by child-proof fastening means (12, 14) located rearwardly from the contact fastening means.



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Title: FASTENING SYSTEM FOR A NAPPY OR PILCHER

TECHNICAL FIELD

The invention relates to a fastening system for a nappy or pilcher.

5 BACKGROUND ART

Nappies and pilchers generally have a front portion and a rear portion and often have elasticised side portions which facilitate a comfortable and substantially snug fit with the legs in the vicinity of the crotch. Nappies and pilchers may be provided with disposable liners or, in the case of nappies, with attached absorbent flaps to increase absorbency.

15 In the past nappies and pilchers have been fastened with safety pins in order to secure them in place with relatively low risk of any injury to the child. Nevertheless, injury sometimes occurs during

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fastening or subsequently. Furthermore, safety pins are difficult to both fasten and unfasten, particularly when the child does not wish to cooperate.

5           Nappies and pilchers have also been fastened with pressure sensitive adhesive tabs, press studs and "loop and pile" (velcro) fasteners. Adhesive tabs, velcro fasteners and press studs, whilst being easily fastened by an adult, suffer from the  
10       disadvantage that they are easily undone, either deliberately or accidentally, by the child. As used herein the term "contact fastening means" is used to define fastening means which are secured by contact and/or pressure. This term includes, but is not  
15       limited to, adhesive tabs, velcro fasteners and press studs.

          Nappies and pilchers have also been fastened by tie tabs, hooks and buttons which whilst being secure cannot be as quickly and easily positioned  
20       and fastened as nappies utilising contact fastening means. Tie tabs, hooks and buttons are particularly difficult to fasten or unfasten when the child does not wish to cooperate. Additionally, buttons and press studs lack durability and security, and  
25       sometimes safety. As used herein the term "child-proof fastening means" is used to define fastening means which are unlikely to be

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accidentally unfastened and require a degree of manual skill to unfasten. This term includes, but is not limited to, tie tabs, hooks and buttons.

5 A desirable nappy fastening system would enable a novice to emplace and fasten the nappy or pilcher rapidly and neatly, preferably with one hand and would provide a fastening which is child-proof (cannot be easily undone by the wearer) and which can be relied upon not to injure the child during  
10 activities. With prior art fastening systems one or more of these characteristics has been pursued to the detriment of others. Additionally, the fastening system should be reusable, durable, washable and so on. To date no nappy or pilcher  
15 satisfactorily satisfies all the above desiderata.

An object of the present invention is to provide an improved fastening system for a nappy or pilcher.

#### DISCLOSURE OF THE INVENTION

20 The invention consists in a nappy or pilcher having a front portion adapted for accurate alignment to the rear portion by contact fastening means, wherein the alignment enables the nappy or pilcher to be securely fastened with ease by  
25 child-proof fastening means located rearwardly from the contact fastening means.

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The contact fastening means serves to enable rapid emplacement and positioning of the nappy or pilcher and the child-proof fastening means provides security and serves to prevent the child from  
5 unfastening the nappy or pilcher. The contact fastening means by itself would not have the requisite degree of security. The combination is quick and easy to secure, cannot be easily unfastened by a child, and can be quickly fastened  
10 or unfastened by an adult. In particular the child-proof fastening means can be easily secured by virtue of the emplacement and positioning provided by the contact fastening means. Accordingly, the contact fastening means facilitates the engagement  
15 of the child-proof fastening means and the child-proof fastening means prevents the contact fastening means from being accidentally or deliberately separated.

Preferably, the contact fastening means  
20 comprises an inwardly facing component disposed on the front portion of the nappy or pilcher and an outwardly facing component disposed on the rear portion of the nappy or pilcher. In the preferred embodiment, contact fastening means are provided in  
25 the form of a velcro fastening.

Preferably also, the child-proof fastening means comprises a hook and loop tab arrangement. In

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the preferred embodiment, the hook is disposed on the front portion of the nappy or pilcher and the loop is disposed on the rear portion of the nappy or pilcher. Most preferably the hook is provided with a barb to facilitate secure engagement.

#### BRIEF DESCRIPTION OF THE DRAWINGS

A preferred embodiment of the invention will now be described, by way of example only, with reference to the accompanying drawings in which:

Figure 1 is a perspective view of a fastening system for a nappy according to the invention shown unfastened on one side.

Figure 2 is a perspective view of a fastening system for a nappy according to the invention shown in the fastened position.

#### BEST MODE

Referring to the drawings, there is shown a nappy 2 having rear portion 4 and front portion 6. Rear portion 4 and front portion 6 are adapted to be fastened together adjacent the left and right hips of the child.

Contact fastening means are provided in the form of velcro having loop 8 and pile 10 provided on the front portion 6 and rear portion 4 respectively.

Child-proof fastening means are provided in the form of hook 12 and loop tab 14 again provided on front portion 6 and rear portion 4 respectively.

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Loop tab 14 is a looped strip of material attached to rear portion 6. Hook 12 is provided with barb 16 to facilitate secure engagement with loop tab 14.

5 In use, the nappy is quickly and accurately placed on the child by virtue of the contact fastening means. This can even be achieved when the child is standing. However, as previously discussed the contact fastening means do not have the  
10 requisite degree of security. Subsequently, the child-proof fastening means are engaged to secure the nappy against unfastening. As previously noted, the presence of the contact fastening means greatly facilitates the engagement of the child-proof  
15 fastening means as the nappy is correctly positioned for this operation. Again, this can even be done when the child is standing by virtue of positioning provided by the contact fastening means.

20 Although the invention has been described with reference to specific examples, it will be appreciated by those skilled in the art that the invention may be embodied in many other forms. For example, the contact fastening means could be embodied as an adhesive tab and the child-proof  
25 fastening means could be embodied as a button. In addition, the fastening system is equally applicable to pilchers.



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## CLAIMS:-

1. A nappy or pilcher having a front portion adapted for accurate alignment to the rear portion by contact fastening means, wherein the alignment  
5 enables the nappy or pilcher to be securely fastened with ease by child-proof fastening means located rearwardly from the contact fastening means.
2. A nappy or pilcher according to claim 1, wherein the contact fastening means comprises an  
10 inwardly facing component disposed on the front portion of said nappy or pilcher and an outwardly facing component disposed on the rear portion of said nappy or pilcher.
3. A nappy or pilcher according to claims 1 or 2,  
15 wherein the contact fastening means is selected from the group comprising of velcro fasteners, adhesive tabs or press studs.
4. A nappy or pilcher according to any one of claims 1 to 3, wherein the child-proof fastening  
20 means is selected from the group comprising of tie tabs, hooks or buttons.
5. A nappy or pilcher according to any one of claims 1 to 4, wherein the child-proof fastening means comprises a hook and loop tab arrangement.
- 25 6. A nappy or pilcher according to claim 4, wherein the hook is disposed on the front portion of

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said nappy or pilcher and the loop tab is disposed on the rear portion.

7. A nappy or pilcher according to claims 4 or 5 wherein the hook is provided with a barb to  
5 facilitate secure engagement.

8. A nappy or pilcher substantially as hereinbefore described with reference to the drawings.

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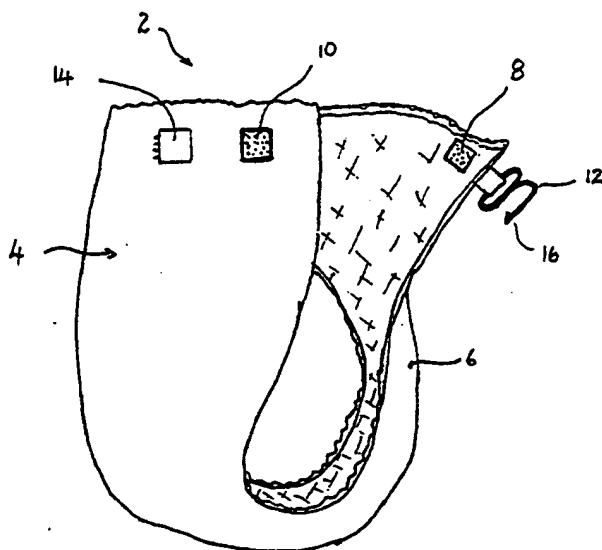


FIG. 1

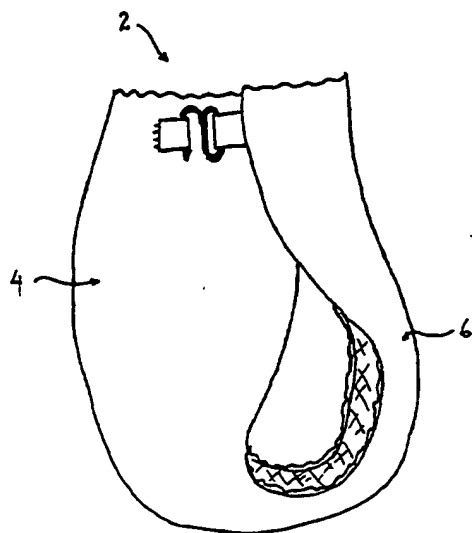



FIG. 2

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/AU 94/00354

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> Int. Cl. <sup>5</sup> A61F 13/56  According to International Patent Classification (IPC) or to both national classification and IPC												
<b>B. FIELDS SEARCHED</b>  Minimum documentation searched (classification system followed by classification symbols) IPC : A41B 13/02, A61F 13/56, 13/58, 13/60, 13/62, 13/64  Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched AU : IPC as above  Electronic data base consulted during the international search (name of data base, and where practicable, search terms used) DERWENT JAPIO												
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>												
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to Claim No.										
X	AU,A, 83121/87 (KIMBERLY-CLARK CORP.) 7 July 1988 (07.07.88) See page 9, line 7 - page 11, line 2, Figures 1, 2	1-8										
X	AU,B, 77910/87 (KIMBERLY-CLARK CORP.) 10 March 1988 (10.03.88) See Figures 1-4	1-8										
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.												
* Special categories of cited documents : <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E" earlier document but published on or after the international filing date</td> <td>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&amp;" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E" earlier document but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed	
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Name and mailing address of the ISA/AU AUSTRALIAN INDUSTRIAL PROPERTY ORGANISATION PO BOX 200 WODEN ACT 2606 AUSTRALIA  Facsimile No. 06 2853929		Authorized officer  D. MELHUISE  Telephone No. (06) 2832426										

**INTERNATIONAL SEARCH REPORT**

International application No.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate of the relevant passages	Relevant to Claim No.
A	AU,B, 31936/77 (COLGATE-PALMOLIVE CO.) 28 June 1979 (28.06.79) See page 10, lines 2-18, Figures 13 and 14	1-8
A	US,A, 1669188 (CONDYLIS) 8 May 1928 (08.05.28) See Figures 1-6	1-8

Information on patent family members .

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